

BOTANICAL MUSEUM LEAFLETS

HARVARD UNIVERSITY

CAMBRIDGE, MASSACHUSETTS, JUNE 30, 1961

VOL. 19, No. 9

CARLUDOVICA PALMATA IN BROOMMAKING

BY
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Carludovica palmata Ruiz & Pavon is best known as the source material for "Panama" hats, the majority of which are manufactured in Ecuador (2).¹ The leaves are also used to a lesser extent for matting, curtains, roofing, baskets, cigar-cases, purses, fly swatters and brooms (2, 3, 4). The petioles, when divided into strips, are used for making brooms in Honduras (1).

At the eastern base of the Cordillera Oriental in the Comisaría del Putumayo in southern Colombia, I recently encountered a household industry of broommaking from the dried leaf blades of *Carludovica palmata*, known locally as *iraca*. The brooms are made sporadically throughout the year at the convenience of the women of the household and are sold to an agent in the nearby town of Mocoa for twenty to twenty-five centavos each. Sent to the markets in the highland city of Pasto, they are resold for fifty to sixty centavos.

The procedure of broommaking begins with the collection of young, partially expanded leaf blades from plants in the vicinity of the house. They are spread on the ground near the home to dry in the sun for about four days, after which they are hung over a line strung be-

¹See References.

tween posts of the porch roof. Here they remain indefinitely until the housewife makes or obtains a light cord of *cabuya* (*Agave* spp.). When she is ready to begin to make a broom, the remaining two to four centimeters of petiole are cut from the leaves with a machete, but the leaf veins (or fibres) are carefully left coherent at their

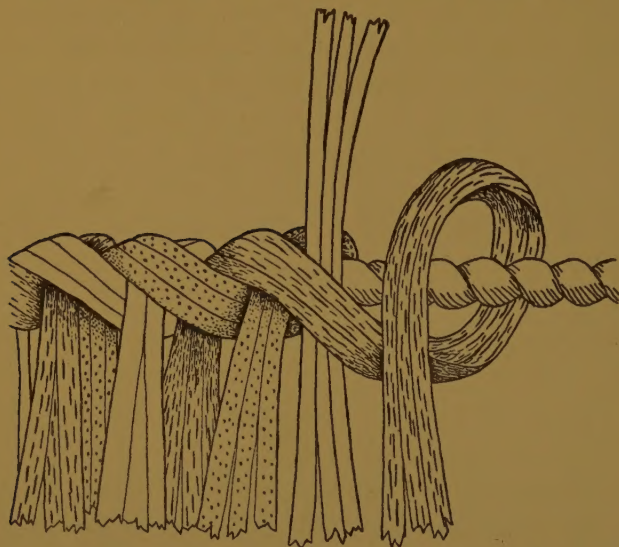


FIGURE 1. Method of tying bundles of fibres to the cord. The center of each bundle is placed against the near side of the cord and the upper half of the previous bundle is brought down in front, looped around the cord and pulled snug.

bases and are then pulled apart by hand. Why this is not done in one action with the machete is not apparent, for separating the fibres by hand takes several seemingly unnecessary minutes. Perhaps conserving the tough bases of the fibres affords the product a longer life.

The cord is now stretched tautly across a corner of the porch at a height of about three feet. While working in a sitting position, the woman finds this a convenient height for making the broom. Beginning near one end,

she ties small bundles of the fibres at their centres to the cord so that both ends hang down (text fig. 1). Each knot may be tied with from three to about fifteen fibres, but the number is relatively constant for each broom. When many fibres are used, the knots are large, giving the completed product a knobby aspect at the top. It is unlikely that the life of the broom is different with either method, since both types of broom contain an equal number of fibres; possibly the size of bundle used for knotting caters to various aesthetic values of the consumers. Certainly knotting with large bundles is a more rapid method. Because some brooms are knotted with small bundles of fibres, it may be that aesthetic considerations are of more importance in this area than is economy of time.

The fibres are tied closely along the cord for a distance of about one and a half meters, and when finished look like a grass skirt about twenty-five centimeters long. Untied from the porch railing, this "skirt" is rolled spirally on the end of a stick and securely bound. A few fibres which are too long are then trimmed off the end with a machete.

When the broom is made for home consumption it is immediately provided with a handle. When it is to be sent to urban centers, however, it is rolled into a bundle without a handle, for the consumer simply unrolls a worn out "skirt" from his old broomstick and replaces it with the new one.

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EXPLANATION OF THE ILLUSTRATION

PLATE XXV. (*Upper*) *Carludovica palmata* Ruiz & Pav. near Mocoa, Comisaría del Putumayo, Colombia.

(*Lower*) Housewife with dried leaf blades of *C. palmata* on porch.

Photographs by M. L. BRISTOL

PLATE XXV



EXPLANATION OF THE ILLUSTRATION

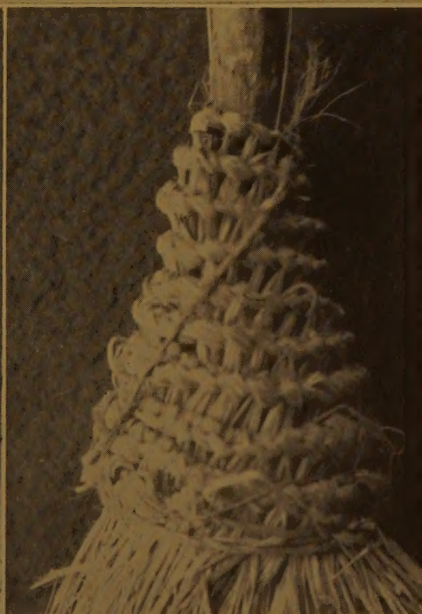
PLATE XXVI. (*Upper*) Tying bundles of 3-5 fibres to the cord, as in Fig. 1.

(*Lower left*) A new broom before trimming (left), and an old worn one (right).

(*Lower right*) Top of broom securely bound to handle. Bundles of 8-10 fibres were tied to the cord in this example.

Photographs by M. L. BRISTOL

PLATE XXVI



NEONELSONIA—A COLOMBIAN FOLK MEDICINE

BY
MELVIN LEE BRISTOL

IN August 1960, I studied the varieties of *arracacha*, the umbelliferous *Arracacia xanthorrhiza* Bancroft, in the Colombian Andes. On one occasion during the study, in the Indian village of Sibundoy (near Pasto) in the Comisaría del Putumayo, a small boy led me to a growth of what he termed "wild arracachas." It was a coarse tangle of an umbelliferous plant clambering over shrubs in an area of 15 square meters. Since this "wild arracacha" appeared to me to be very closely related to the genus I was studying, if not the same, I collected specimens in flower and fruit. When I took them back to one of the older Sibundoy Indians, Juan Pedro Chindoy, he called the plant "ingo-sha-hush" in the Kamsá language.

Utilization

The man told me that the plant is used as a remedy for swelling and inflammation of the upper region of the intestine (*hinchazones intestinales superiores*). Furthermore, he said that it is employed by all Sibundoy women immediately after childbirth "to prevent their death." In both cases, the preparation and dosage is the same: the leaves and stems are boiled well, then some sugar and ten drops of a distilled alcoholic beverage (*trago*) are

added. One-half demitasse cupful (15 cc.?) is taken internally.

Taxonomy

I have identified the Sibundoy "ingo-sha-hush" as *Neonelsonia acuminata* (Bentham) Coulter & Rose ex Drude. *Neonelsonia*, described in 1895 by Coulter and Rose (4), comprises two species: the type, *Neonelsonia ovata* of the mountains of southern Mexico; and the species under consideration here. *Neonelsonia acuminata* is a scandent, herbaceous, essentially glabrous perennial with a long, woody taproot. The leaves are ternately compound with ovate to lanceolate, spinulose-serrate leaflets often lobed toward the base. The compound umbels lack an involucre but possess filiform involucels which frequently surpass the fertile pedicels in length. The greenish yellow petals are obcordate, with a narrow, inflexed tip. The ellipsoid-cordate fruits have five prominent, fleshy ridges.

Neonelsonia acuminata bears many resemblances to various species of *Arracacia*, particularly, as noted by Constance (3), to *A. Pennellii* Constance, *A. Wigginsii* Constance and *A. elata* Wolff. Mathias and Constance (6) recognized six differences between *Neonelsonia* and *Arracacia*. Four of these differences—the shape of the petal apex, the degree of reduction of the calyx, the position of the oil ducts, and the shape of the groove on the seed face—seem unimportant, for upon examination these characters are seen to grade from one genus to the other. Of greater importance in distinguishing these two genera is the wrinkled surface of the fruits of *Neonelsonia*, possibly lacking schlerenchymatous tissue, and more especially, their ellipsoid-cordate form.

Examination of sixteen type specimens of *Arracacia* in the Harvard University Herbarium shows that the

fruit varies from lanceolate and oblong to ovate, but that none are ellipsoid-cordate. In view of the many resemblances between these two genera, however, it is possible that a future monographer of *Arracacia* might emend the genus-concept to include *Neonelsonia*.

Distribution

Specimens of *Neonelsonia acuminata* in the Harvard University Herbarium indicate that its range is Colombian and Ecuadorean, extending from the Departamento del Cauca in the north to the Provincia de Azuay in the south at elevations of 2450 to 3660 meters. My specimens from Sibundoy in the Comisaría del Putumayo, Colombia, were collected at 2100 meters, extending the known altitudinal limits of the species. Another collection, from San Diego near Guachucal, Nariño, is within the previously known range.

Because *Neonelsonia acuminata* is not readily distinguished in the field from *Arracacia Pennellii* and from *A. Wigginsii* when fruits are not available, it is well to note the distribution of these two species of *Arracacia* in central Colombia and central Ecuador, overlapping the range of *N. acuminata*. The specimens of *Arracacia Pennellii* available to Constance (3) when the species was described came from Cundinamarca, Norte de Santander and Santander in Colombia at elevations of 3000 to 3800 meters. Likewise, the specimens of *Arracacia Wigginsii* were collected in Cañar and Azuay (one at 3660 meters) in Ecuador. A later collection, now in the Harvard University Herbarium, is also from Azuay but at 2740 meters. Our present scanty knowledge indicates that of these three species, only *Neonelsonia acuminata* is found in southern Colombia and northern Ecuador and that its altitudinal tolerance extends to lower elevations than does that of the two species of *Arracacia*.

Specimens of *Neonelsonia acuminata* examined

COLOMBIA. Cauca: 3100-3300 m. alt., June 11-13, 1922, *Pennell & Killip 6632, 6676*. Putumayo: 2100 m. alt., August 3, 1960, *Bristol 240*. Nariño: 3140 m. alt., August 10, 1960, *Bristol 241*. ECUADOR. Pichincha: 3000-3600 m. alt., August 13, 1923, *Hitchcock 20881*; March 31, 1920, *Holmgren 449*; 12,000-12,600 ft. alt., 1855, *Couthouy*. Azuay: 8000-9000 ft. alt., July 27-August 12, 1945, *Camp E 4503*.

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NOVELTIES IN THE ORCHID FLORA OF THE GUAYANA HIGHLANDS *

BY
CHARLES SCHWEINFURTH

THE present paper, which is the first of two articles dealing with novelties in the Orchidaceae of the Guayana Highlands, treats eleven new species. The order follows that of the System proposed by Dr. Rudolph Schlechter in *Notizblatt des Botanischen Gartens und Museums*, Berlin-Dahlem 9, No. 88 (1926) 563-591.

Duckeella alticola *C. Schweinfurth sp. nov.*

Herba terrestris, pro genere robusta, nigrescens, circiter 50 cm. alta. Caulis glaber, saepissime superne inaequaliter bifurcatus. Folia valde coriacea, biformia; basalia pauca, oblongo-linearia, acuta, suberecta, usque ad 19 vel 22 cm. longa et 9-16 mm. lata; caulina duo, multo breviora, remotissima, elliptico-oblonga, acuta, 8.7-10 cm. longa, usque ad 1.3 cm. lata. Racemi in ramorum apice, densius pauci- vel pluriflori. Flores mediocres, aurei. Sepala crassa, concava, marginibus incurvis. Sepalum dorsale oblongo-ellipticum, acutum, circiter 2 cm. longum et 8.2 mm. latum. Sepala lateralia persimilia, dorso carinata. Petala latiora, ovalia vel late

* For the privilege of studying the extensive collections recently made in this region, I am indebted chiefly to a grant from the National Science Foundation.

EXPLANATION OF THE ILLUSTRATION

PLATE XXVII. *DUCKEELLA ALTICOLA* C. Schweinfurth.
1, plant, one third natural size. 2, flower expanded,
one and one quarter times natural size. 3, column
and lip, three quarters view, two and one quarter
times natural size.

Drawn by ELMER W. SMITH

DUCKEELLA
alticola
C. Schweinf.



R. W. Smith

elliptica, submembranacea, circiter 1.8 cm. longa et 1.2 cm. lata. Labellum in circuitu oblongum, circiter 1.75 cm. longum et 8 mm. latum, basi trilobatum cum lobulis parvis semiorbicularibus, apice truncato abrupte acutum; discus inter lobos laterales callo brevi pluristriato emarginato ornatus. Columna comparate parva, circiter 8 mm. alta, cucullata, apice bifida, basi dente oblongo prominenti utrinque praedita.

This orchid differs conspicuously from the other species of *Duckeella* in having broader leaves, fleshy, concave and acute sepals, a relatively short callus on the lip and a pair of conspicuous teeth on the column. It is a comparatively robust plant of consistently rather high altitudes.

AMAZONAS: Cerro Duida, moist slopes of Savanna Hills, 1850 meters altitude, August 1928–April 1929, *G. H. H. Tate 736*; Cerro Sipapo (Paráque), near summit of West Peak, at 1750 meters altitude, infrequent in bogs, flowers yellow, fragrant, December 20, 1948, *Bassett Maguire & Louis Politi 27797*. BOLÍVAR: Cerro Guaiquinima, Río Paragua, occasional near Cumbre Camp, at 2000 meters altitude, flowers dull yellow, December 25, 1951, *B. Maguire 32748*; Same locality, rare in bog, along west escarpment rim 1 km. west of Cumbre Camp, at 1800 meters altitude, flowers yellow, December 30, 1951, *B. Maguire 32830, 32839A*; Same locality, frequent in bogs, "North Valley," at 1600–1700 meters altitude, flowers yellow with the outer members [sepals] bronze outside, January 4, 1952, *B. Maguire 32973* (TYPE in Herb. Ames No. 69538).

***Sobralia speciosa* C. Schweinfurth sp. nov.**

Herba elata, speciosa, terrestris, 1–3 metralis (fide collectoris). Caules plusminusve robusti, vaginis longe tubularibus arctis glabris obtecti. Folia numerosa, disticha, lanceolata vel ovato-lanceolata, longe acuminata, plicata, supra nitentia, usque ad 15 cm. longa et 3.7 cm. lata. Inflorescentiae saepissime laterales (raro terminales), racemosae, laxae pauciflorae, suberectae. Flores magni spectabilesque, purpurei, membranacei. Sepalum dorsale oblongo-oblancheolatum, acutum, circiter 4.5–5.5 cm. longum et 1.3 cm. latum. Sepala lateralia similia, an-

guste oblanceolato-oblonga, paulo obliqua, dorso carinata, circiter 5–5.6 cm. longa et 1.3 cm. lata. Petala oblongo-obovata, apice late rotundata, sepalis latiora, circiter 2–3 cm. lata. Labellum majus, segmenta cetera superans, in positu naturali convolutum, expansum suborbiculari-ellipticum, circiter 6–7 cm. longum et 5 cm. latum, apice profunde bilobatum; discus carinis pluribus superne laceris percursus. Columna circiter 3–3.5 cm. alta, apice falcula incurva utrinque ornata.

This species appears to be related to the Peruvian *Sobralia Weberbaueriana* Kränzl., but has smooth (not furfuraceous) sheaths, much smaller leaves and a dissimilar lip and column.

AMAZONAS: Cerro de la Neblina, Río Yatua, near Cumbre Camp, at 1700 meters altitude, occasional on low bushy slopes, "roots fleshy; corolla cerise; lip with median yellow line and several white lines; column whitish, pink-flushed," January 4, 1954, *Bassett Maguire, John J. Wurdack & George S. Bunting 37028*; Same locality, occasional in scrub forest 1 kilometer north of Cumbre Camp, at 1800 meters altitude, "fls. rich pink," January 10, 1954, *Maguire, Wurdack & Bunting 37202*; Same locality, locally frequent in scrub forest near Cumbre Camp, at 1800 meters altitude, "fls. magenta, the lip with subapical white area," November 19, 1957, *Bassett Maguire, John J. Wurdack & Celia K. Maguire 42142* (TYPE in Herb. Ames No. 69507).

Stelis latisejala *C. Schweinfurth sp. nov.*

Herba pusilla, caespitosa, epiphytica, 4–5 cm. alta. Caulis abbreviatus, circiter 3 mm. altus, vaginis laxis tubularibus omnino celatus. Folium erectum, oblanceolatum vel obovato-spathulatum, apice rotundatum, sessile, 8–14 mm. longum, expansum usque ad 4.2 mm. latum. Inflorescentia singula, folium multo superans, supra laxe pluriflora, usque ad 4.7 cm. longa. Flores perparvi, subcarnosi. Sepala transverse rhombico-ovata, acuta, trinervia, basi connata. Sepalum dorsale circiter 2.6 mm. longum et 3 mm. latum. Sepala lateralia similia sed minora, valde obliqua, usque ad 2 mm. longa et 2.5

EXPLANATION OF THE ILLUSTRATION

PLATE XXVIII. *SOBRALIA SPECIOSA* C. Schweinfurth.
1, plant, about one half natural size. 2, dorsal
sepal, three quarters natural size. 3, petal, three
quarters natural size. 4, lateral sepal, three quar-
ters natural size. 5, lip, three quarters natural size.
6, column from side, three quarters natural size.

Drawn by ELMER W. SMITH



mm. lata. Petala minuta, rhombico-ovata, supra multo incrassata, circiter 0.7 mm. longa et 0.9 mm. lata. Labellum simplex, petalis simile, rhombico-ovatum, circiter 0.6 mm. longum et 0.9 mm. latum; discus callo carnosio transverso bilobato prope medium ornatus. Columna generis, minuta, supra abrupte dilatata.

This little plant seems to be allied to the Brazilian *Stelis parvifolia* Garay, but has larger glabrous flowers.

BOLÍVAR: Chimantá Massif, elfin forest formation on plateau of southeast-facing upper shoulder of Apácará-tepui, at 2000 meters altitude, "epiphyte on branch; leaves fleshy-coriaceous, pale green; scape brown-purple as are the pedicels; calyx [sepals] copper-brick with tawny-yellow margins," June 19, 1953, *Julian A. Steyermark 75712* (TYPE in Herb. Ames No. 69505).

***Stelis obovata* C. Schweinfurth sp. nov.**

Herba parvula, caespitosa, epiphytica, usque ad 12 cm. alta. Caules approximati, breves, usque ad 1.3 cm. alti, bivaginati, vaginis arctis, tubulatis obtecti. Folium erectum, spathulatum vel oblanceolatum (raro obovatum), apice saepissime obtusum vel rotundatum, usque ad 2.8 cm. longum et 9 mm. latum. Inflorescentiae folium multo superantes, usque ad 10.3 cm. longae; racemus superne dense multiflorus, saepe secundus. Flores minuti, carnosiores. Sepala rotundato-ovata, obtusa vel subacuta, concava, trinervia, subaequalia, basi paulo conata, lateralia obliqua. Sepalum dorsale circiter 2 mm. longum et 1.8 mm. latum. Petala multo minora, in situ naturali cuneato-obovata, circiter 0.8 mm. longa et fere lata, parte superiore carnosissima. Labellum simplex, cuneato-obovatum, apice subtruncatum et incrassatum, circiter 1 mm. longum et latum; discus medio cum callo lanceolato-pandurato. Columna generis, minuta, supra abrupte dilatata.

This species appears to be closely allied to *Stelis lentiginosa* Lindl., the peculiar lip being almost identical,

PLATE XXIX



STELIS LATISEPALA *C. Schweinfurth*
Flower expanded, lip and petal, all much enlarged.



STELIS OBOVATA *C. Schweinfurth*
Flower expanded, lip and petal, all much enlarged.
Drawn by ELMER W. SMITH

but it differs in having a caespitose habit of growth and much smaller flowers.

AMAZONAS: Cerro Huachamacari, Río Cunucunuma, epiphytic in cumbre near Summit Camp, at 1800 meters altitude, flowers cream-colored, December 14, 1950, *Bassett Maguire, R. S. Cowan & John J. Wurdack 30204*. (This collection differs from the type in its much smaller vegetative proportions and somewhat smaller flowers.) BOLÍVAR: Chimantá Massif, Central Section, on rocky slopes of zanjón bordering Upper Falls of Río Tirica above Summit Camp, at 1950 meters altitude, "epiphyte on mossy branch, lvs. coriaceous, pale green; peduncle and pedicels pale green; fls. greenish yellow," February 7, 1955, *Julian A. Steyermark & John J. Wurdack 556* (TYPE in Herb. N.Y. Botanical Garden).

***Octomeria cordilabia* C. Schweinfurth sp. nov.**

Herba valde variabilis, caespitosa, terrestris vel epiphytica. Caules pergraciles, elongati, usque ad 37 cm. alti, multiarticulati, vaginis longe tubularibus arctissimis omnino velati. Folium lanceolato-lineare, sessile, apice minute et oblique bilobatum, crasse coriaceum, usque ad 6.6 cm. longum et circiter 5 mm. latum. Flores in folii axilla fasciculati, parvi, aurei vel aurantiaci, membranacei. Sepalum dorsale late elliptico-ovatum, subacutum, saepissime trinervium, usque ad 5.2 mm. longum et 4 mm. latum. Sepala lateralia breviora et latiora, orbiculari-ovata, saepissime trinervia, usque ad 4.3 mm. longa et 4.1 mm. lata. Petala late ovato-elliptica, subacuta, trinervia, usque ad 4.1 mm. longa et 3.4 mm. lata. Labellum segmentis ceteris multo minus, suborbiculari-ovatum, antice late rotundatum et minute apiculatum, basi cordatum, usque ad 1.7 mm. longum et 2.4 mm. latum; discus callis binis carnis convergentibus ornatus. Columna parva, arcuata, basi apiceque dilatata.

This species does not appear at present to have any close allies. The relatively long stems, small leaves and entire lip are distinctive.

AMAZONAS: Cerro Huachamacari, Río Cunucunuma, between Summit Camp and "East Ridge" savanna, at 1800 meters altitude, in

densely wooded valley, December 8, 1950, *Bassett Maguire, R. S. Cowan & John J. Wurdack 30035*; Cerro de la Neblina, Río Yatua, near Cumbre Camp, in scrub forest along runlet, at 1700 meters altitude, on rocks and tree trunks, January 5, 1954, *Bassett Maguire, John J. Wurdack & George S. Bunting 37067*; Same locality, along escarpment west of Cumbre Camp, at 1700–1800 meters altitude, occasional terrestrial, *Maguire, Wurdack & Bunting 37099*; Same locality, on Caño Grande slopes, east of Cumbre Camp, at 1600–1800 meters altitude, on limb of low tree, November 22, 1957, *Bassett Maguire, John J. Wurdack & Celia K. Maguire 42183*; Same locality, near Cumbre Camp, at 1800 meters altitude, occasional terrestrial in scrub forest, November 29, 1957, *Maguire, Wurdack & Maguire 42258* (TYPE in Herb. N. Y. Botanical Garden).

***Octomeria dentifera* C. Schweinfurth sp. nov.**

Herba parva, caespitosa, saxicola, usque ad 14 cm. alta. Caules graciles, breves, pauciarticulati, 5–8 cm. alti, vaginis longe tubulatis maxima pro parte obtecti. Folium erectum, lineari-lanceolatum vel elliptico-lineare, acutum, sessile, crasse coriaceum, 3.5–6.7 cm. longum, usque ad 6 mm. latum. Flores bini ut videtur, axillares, pro planta magni, membranacei. Sepala similia, trinervia, lanceolata, 10.5–11 mm. longa. Sepalum dorsale acuminatum, usque ad 4.2 mm. latum. Sepala lateralibus paulo angustiora, leviter obliqua, longe acuminata, usque ad 3.5 mm. lata. Petala sepalo dorsali similia, ovato-lanceolata vel elliptico-lanceolata, acuminata, usque ad 10 mm. longa et 3.7 mm. lata. Labellum segmentis ceteris multo minus, in positu naturali oblongo-ellipticum et 5.4 mm. longum, infra medium trilobatum cum lobis lateralibus parvis auriculiformibus erectis et lobo intermedio comparate magno, oblongo-ovato, antice subtruncato, marginibus irregulariter dentatis; discus in medio cum carinis binis carnosus. Columna gracilis, arcuata, circiter 4 mm. alta, in pedem conspicuum producta.

This species is allied to *Octomeria parvula* C. Schweinf., but is larger throughout with the flower nearly twice as

large. The specific name is in allusion to the dentate margins of the lip.

BOLÍVAR: Churu-tepuí (Muru-tepuí), northwest cumbres, occasional on rock ledges in upper cumbre, at 2250–2300 meters altitude, flowers white, January 26, 1953, *John J. Wurdack 34218* (TYPE in Herb. Ames No. 69525); Chimantá Massif, east central portion of summit of Apácará-tepuí, at 2450–2500 meters altitude, “on moist ledges of high large rock around cave recess, leaves dark purple or dull green with purple; pedicels reddish; sepals, petals and lip pale yellow, nodding,” June 21–22, 1953, *Julian A. Steyermark 75867*.

***Octomeria filifolia* C. Schweinfurth sp. nov.**

Herba gracillima, epiphytica, caespitosa, usque ad 17 cm. alta. Caules tenues, pluriarticulati, circiter 3.5–9 cm. alti, vaginis longe tubulatis aretissimis celati. Folium angustissime lineare vel filiforme, in vivo subteres, usque ad 9 cm. longum et in sicco 1.5 mm. latum. Flores in glomerulis axillaribus, minimi, membranacei. Sepala trinervia. Sepalum dorsale oblongo-lanceolatum, acutum vel acuminatum, tubulari-involutum, circiter 3 mm. longum et 1 mm. latum expansum. Sepala lateralia triangulari-lanceolata, acuta, cum pede mentum formantia, circiter 3 mm. longa et 1.2 mm. lata. Petala lanceolata-linearia, acuta vel acuminata, tubulari-involuta, 1-nervia, sepalis paulo breviora, circiter 2.4 mm. longa et 0.6 mm. lata. Labellum parvum, tubulari-involutum, prope medium trilobatum, basi cuneatum, expansum circiter 1.5 mm. longum et fere 1 mm. latum; lobi laterales oblique semiovati, acuti; lobus intermedius multo major, suborbicularis, apice rotundatus et minute apiculatus; discus lobi medii basi obscure bicarinatus. Columna antice plana, circiter 1.4 mm. alta.

No close ally of this species was noted.

BOLÍVAR: Chimantá Massif, northwestern part of Abácapa-tepuí, vicinity of Camp 3, at 1800 meters altitude, on forested slopes adjacent to quebrada, epiphyte on tree trunk, “leaves purplish with green; petiole purple; flowers pale green with lavender,” April 20, 1953, *Julian A. Steyermark 75181* (TYPE in Herb. Ames No. 69526).

Octomeria flaviflora *C. Schweinfurth sp. nov.*

Herba elata, caespitosa, terrestris. Caules pluriarticulati, usque ad 47 cm. alti, vaginis longe tubulatis marcescentibus maxima pro parte obtecti. Folium erectum, lineari-oblongum, apice minute tridenticulatum, basi sessile, valde coriaceum, usque ad 18 cm. longum et 1.4 cm. latum. Flores numerosi, in glomerulis axillaribus, flavi, membranacei, cum segmentis patentibus. Sepala petalaeque lanceolata, acuminata, trinervia. Sepalum dorsale longe acuminatum, 8–11 mm. longum, 3–3.5 mm. latum. Sepala lateralia simillima, paulo obliqua, 8–11 mm. longa, 2.2–3.1 mm. lata. Petala paulo breviora, ovato-lanceolata, saepissime latiora, circiter 7–9.2 mm. longa, usque ad 4 mm. lata. Labellum segmentis ceteris multo minus, in circuitu ovato-oblongum, usque ad 5 mm. longum et 3 mm. latum, prope basim trilobatum; lobi laterales perparvi, anguste falcato-oblongi; lobus intermedius comparate magnus, oblongo-ovatus, apice saepissime subtruncatus et medio acutus, cum marginibus denticulato-erosis; discus callis binis humilibus ornatus. Columna parva, arcuata, usque ad 3–4 mm. alta, in pedem brevem producta.

AMAZONAS: Cerro de la Neblina, Río Yatua, at 2000 meters altitude, locally frequent in rocky ravine 16 kilometers southwest of Cumbre Camp, December 1–2, 1957, *Bassett Maguire, John J. Wurdack & Celia K. Maguire 42280*; Same locality, at 1900–2000 meters altitude, locally frequent in upper Cañon Grande basin above Salto Grande, December 13, 1957, *Maguire, Wurdack & Maguire 42362*; Cerro Sipapo (Paráque), at 1600 meters altitude, occasional along streambanks in Caño Profundo, January 12, 1949, *Bassett Maguire & Louis Politi 28315*; Cerro Huachamacari, Río Cunucunuma, at 1800 meters altitude, occasional on left bank of Caño de Dios in cumbre near Summit Camp, December 6, 1950, *Bassett Maguire, R. S. Cowan & John J. Wurdack 30024* (TYPE in Herb. Ames No. 69523); Same locality and altitude, locally frequent in dense woodland in cumbre along right fork of Caño de Dios near Summit Camp, December 13, 1950, *Maguire, Cowan & Wurdack 30194*. BOLÍVAR: Cerro Guaiquinima, Río Paragua, at 1500 meters altitude, occasional in open savanna on precipitous slope below west

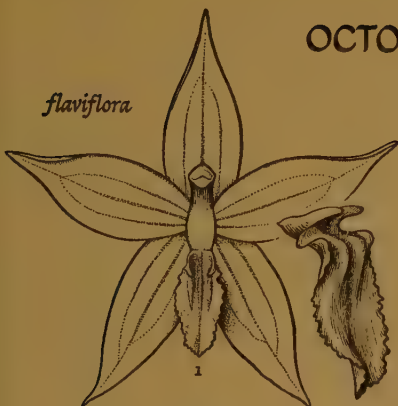
EXPLANATION OF THE ILLUSTRATION

PLATE XXX. OCTOMERIA. 1, *O. FLAVIFLORA* C. *Schweinfurth*. Flower expanded, three times natural size. Lip, three quarters view, five and one half times natural size. 2, *O. NANA* C. *Schweinfurth*. Flower expanded, eight times natural size. Lip, three quarters view, eleven times natural size. 3, *O. DENTIFERA* C. *Schweinfurth*. Flower expanded, two and one half times natural size. Lip, three quarters view, four and one half times natural size. 4, *O. LANCIPETALA* C. *Schweinfurth*. Flower expanded, five and one half times natural size. Lip, three quarters view, twelve times natural size. 5, *O. FILIFOLIA* C. *Schweinfurth*. Flower expanded, nine times natural size. Lip, three quarters view, twenty-two times natural size. 6, *O. CORDILABIA* C. *Schweinfurth*. Flower expanded, five and one half times natural size. Lip, three quarters view, twelve times natural size.

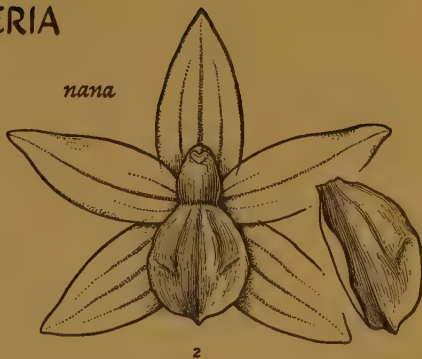
Drawn by ELMER W. SMITH

OCTOMERIA

flaviflora



nana



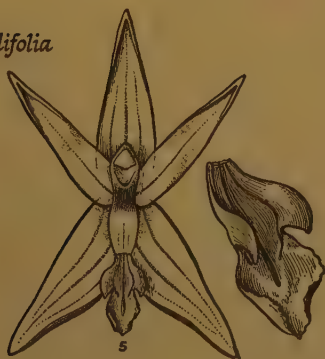
dentifera



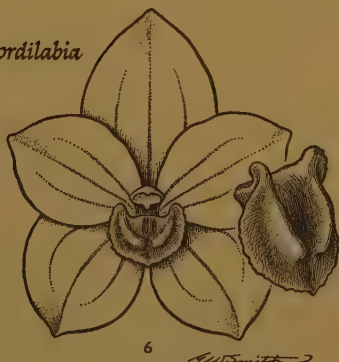
lancipetala



filifolia



cordilabia



W. Smith

escarpment, December 31, 1951, *B. Maguire 32877*; Chimantá Massif (Central Section), at 1940 meters altitude, on border of large rocks by large savanna below Upper Falls of Río Tirica above Summit Camp, "sepals yellow with dull brick-red margins and tips; lip maroon; column greenish with pale yellow apex," February 7, 1955, *Julian A. Steyermark & John J. Wurdack 607*.

***Octomeria lancipetala* C. Schweinfurth sp. nov.**

Herba parva vel mediocris, epiphytica. Caules graciles, usque ad 17.5 cm. alti, pluri- vel multiarticulati, vaginis longe tubularibus arctissime celati. Folium lanceolato-lineare, apice acutum vel minute tridenticulatum, crasse coriaceum, circiter usque ad 9 cm. longum et 4.5 mm. latum. Flores parvi, numerosi, in glomerulis axillaribus, cum segmentis patentibus. Sepalum dorsale ovatum vel lanceolato-ovatum, acutum vel acuminatum, trinervium, circiter 4 mm. longum et 2.1 mm. latum. Sepala lateralia similia, sed paulo longiora et angustiora. Petala anguste lanceolata, acuta vel acuminata, uninervia, circiter 3.2–3.8 mm. longa et 1 mm. lata. Labellum segmentis ceteris multo minus, simplex, valde geniculatum, antice late rotundatum et aliquando apiculatum, postice cordato-truncatum, circiter 1.1 mm. longum et 1.5–1.8 mm. latum, cum ungue brevi cuneato; discus basi incrassatione obliqua utrinque ornatus. Columna minuta, crassa, apice dilatata, circiter 1 mm. alta.

This species appears to be allied to *Octomeria cordilabia* C. Schweinf., but has commonly much shorter stems and very dissimilar sepals and petals.

AMAZONAS: Cerro Huachamacari, Río Cunucunuma, frequent in cumbre, at 1700 meters altitude, flowers purple, December 4, 1950, *Bassett Maguire, R. S. Cowan & John J. Wurdack 29823*; Same locality, along right fork of Caño de Dios near Summit Camp, at 1800 meters altitude, in dense woodland, December 13, 1950, *Maguire, Cowan & Wurdack 30170A* (TYPE in Herb. Ames No. 69528); Cerro de la Neblina, Río Yatua, in scrub forest 1 to 5 kilometers north of Cumbre Camp, at 1800 meters altitude, occasional on tree trunks, buds maroon, January 10, 1954, *Bassett Maguire, John J. Wurdack & George*

S. Bunting 37161; Same locality, in swale 2 kilometers northeast of Cumbre Camp, at 1800 meters altitude, on limb of low tree, flowers maroon, November 20, 1957, *Bassett Maguire, John J. Wurdack & Celia K. Maguire 42150*.

***Octomeria nana* C. Schweinfurth sp. nov.**

Herba pusilla, caespitosa, rupicola, usque ad 4 cm. alta. Caules brevissimi, usque ad 13 mm. alti, circiter 2-articulati, vaginis tubulatis marcescentibus celati. Foliolum oblongo-lineare, valde carnosum-coriaceum et per medium sulcatum, acutum, sessile, usque ad circiter 23 mm. longum et 2 mm. latum in sicco. Flores axillares, pauci, glomerati, membranacei. Sepala similia, prope basim trinervia. Sepalum dorsale ovato-oblongum, acutum, concavum, circiter 3.7 mm. longum et 1.5 mm. latum. Sepala lateralia oblique ovato-oblonga, acuta, circiter 3.5 mm. longa et 1.5 mm. lata. Petala oblique oblongo-lanceolata, concava, subacuta, circiter 3.5 mm. longa et 1.2 mm. lata, maxima pro parte uninervia. Labellum segmentis ceteris multo brevius, simplex, suborbiculare, antice rotundatum et apice abrupte acuto, ad basim rotundatam angustatum, trinervium, circiter 2.2 mm. longum et 2 mm. latum; discus in medio obscure bicallosus. Columna minuta, crassa.

This dwarf species seems to have no near allies. The only available flowers occurred at the summit of enlarged, ellipsoid ovaries.

BOLÍVAR: Chimantá Massif, Torono-tepuí, north-facing slopes on summit above Caño Mojado, on rock in savanna, at 2030-2150 meters altitude, "lvs. 3-4 mm. thick," February 21, 1955, *Julian A. Steyermark and John J. Wurdack 1027* (TYPE in Herb. Ames No. 69524).

***Ponthieva ovatilabia* C. Schweinfurth sp. nov.**

Herba terrestris, elata, usque ad 87 cm. alta. Radices fasciculatae, fibrosae, lanuginosae. Folia plura, in herbae basi, longe petiolata; lamina ovato-lanceolata vel elliptico-lanceolata, acuminata, basi cuneata, membranacea, tri-

EXPLANATION OF THE ILLUSTRATION

PLATE XXXI. PONTIEVA OVATILABIA *C. Schweinfurth*.
1, plant, one half natural size. 2, flower expanded,
with lip and column foreshortened, five times natu-
ral size. 3, lip expanded, six times natural size.

Drawn by ELMER W. SMITH

PONTHIEVA
ovatilabia
C. Schweinf.



nervia, 7–13 cm. longa, usque ad 3.8 cm. lata; petiolus canaliculatus, satis gracilis, circiter 5–10 cm. longus. Caulis glanduloso-pilosus, usque ad inflorescentiam circiter 59.6–71.4 cm. altus, vaginis pluribus remotis ornatus. Racemus laxe multiflorus, cum rhachide circiter 10–16 cm. alta. Flores parvi, viridi-albidi. Sepala extus sparse glanduloso-pilosa. Sepalum dorsale elliptico-lanceolatum, ad apicem subacutum angustatum, trinervium, 6–7 mm. longum, circiter 2 mm. latum. Sepala lateralia oblique ovata, subacuta, 6–7 mm. longa, circiter 3.1–3.4 mm. lata, quinquenervia. Petala unguiculata; lamina obliquissime triangularis, acuta, basi semicordata, circiter 4.7 mm. longa et 3 mm. lata; unguis oblongo-linearis, carnosus, circiter 1.3 mm. longus. Labellum columnae parti superiori adnatum, valde inflexum, cum lateribus involutis, expansum in circuitu ovatum, circiter 4 mm. longum et inferne 2.3 mm. latum, parte anteriore oblongo-lineari et parte posteriore suborbiculari; discus basi cum callo rotundato-hippocrepiformi. Columna perbrevis, crassa, supra abrupte dilatata, circiter 2.5 mm. alta.

This species is vegetatively similar to *Ponthieva dip-
tera* Linden & Reichb.f., but the petals and lip are very different. The lip somewhat recalls that of *P. ecuadorensis* Schltr.

AMAZONAS: Cerro de la Neblina, Río Yatua, 700 meters altitude, occasional in *Clusia* scrub forest just south of Camp 3, December 31, 1957, Bassett Maguire, John J. Wurdack and Celia K. Maguire 42559 (TYPE in Herb. Ames No. 69529). BOLÍVAR: Cerro Venamo, north-west slopes, 1100 meters altitude, terrestrial in moist mossy forest, leaves firmly membranaceous, deep green above, dull gray green beneath, pedicels recurved, nodding, pale green, ovary ivory-white, April 21, 1960, Julian A. Steyermark & S. Nilsson 431.